WELDING JOURNAL INDEX

VOLUME 67—1988

PUBLISHED BY THE AMERICAN WELDING SOCIETY, P.O. BOX 351040, MIAMI, FL 33135

Part 1—WELDING JOURNAL

SUBJECT INDEX

Adaptive Pulsed GMAW Control: The Digipulse System—J. F. Collard, 35 (Nov).
Adaptive Robotic Welding System Using Weld-Wire Touch Sensing, An—C. P. Cullen, 17 (Nov).
Addressing Employee Concerns about Welding in a Nuclear Power Plant—J. C. Danko, D. D. Hansen and P. D. O'Leary, 33 (Mar).
Adhesive Use, Automakers Increase, 55 (Jan).
Adhesives Grab Hold in the Structural Field—Andrew Cullison, 51 (Jan).
Aluminum Armor Alloy, Weld Properties of the Newly Developed 2519-T87—S. M. DeVincent, J. H. Develetian and S. A. Gedeon, 33 (July).
Aluminum Barrels and GTA Welding Make a Fine Brew, 45 (Aug).
Aluminum on the Ti-O-B-N Balance in Submerged Arc Welding, Effect of—J. Burkhardt, T. Lau, T. H. North and G. L'Esperance, 25 (Aug).
Aluminum with the GMAW Process, Tips on Welding—P. Ryan, 43 (Dec).
Anchor Manufacturer Sinks the Competition with Help from Robots, 48 (Aug).
Arc Time Increases Threefold with Robot, 51 (Nov).
Arc Welding of Road Graders, Robotic—J. Hanright, 17 (Jan).
Armor Alloy, Weld Properties of the Newly Developed 2519-T87 Aluminum—S. M. DeVincent, J. H. Devletian and S. A. Gedeon, 33 (July)
Aspirin-Makers' Headache Gets Fast Relief from Stainless Steel Flux Cored Electrode, 52 (June).
Automakers Increase Adhesive Use, 55 (Jan).
Automated Image, Radiographic Examination Takes on an—J. Aman, 57 (Feb).
Automated RW System, Production Efficiency Increases with, 50 (Dec).
Automatic and Robotic Welding of Automotive Parts—J. F. Hinrichs and J. S. Noruk, 23 (Nov).
Automatic System Welds Automotive Trim Rings, 60 (May).
Automation Keeps Jet Engines Flying—Andrew Cullison, 46 (Dec).
Automotive Trim Rings, Automatic System Welds, 60 (May).
AWS Welding Show—New Orleans, Louisiana, SPECIAL REPORT: 1988—Jeff Weber and Andrew Cullison, 17 (July).

Beam Welding with Fiber Optics Heats Both Sides Simultaneously, Laser, 47 (Nov).
Biofouling Take a Dive, New Copper Coatings System Makes, 68 (Apr).
Brazed with Metglas® MBF-2005 and BCuP-5 Filler Metals, Stability to Aging of Copper-to-Copper Joints—A Rabinkin, 29 (Oct).
Brazing Alloys Introduced, Family of Ni-Pd, 66 (July).
Brazing with Metglas® MBF-2005 Filler Metal, Effects of Load on—A. Rabinkin and S. Pounds, 33 (May).
Bronze, Electron Beam Welding of Nickel-Aluminum—T. M. Mustaleski, Jr., R. L. McCaw and J. E. Sims, 53 (July).

Can-Making Industry, The Development and Implementation of High-Speed Laser Beam Welding in the—C. M. Sharp and C. J. Nilsen, 25 (Jan).
Choosing a Welding Procedure to Produce a Ten-Meter-Long Tensile Specimen—T. A. Siewert and G. E. Hicho, 35 (Feb).
Clad with Strip Electrodes, Nuclear Waste Containers, 53 (Mar).
Cladding: Process Control, Vertical Strip—W. R. Schick, 17 (Mar).
Coating System Makes Biofouling Take a Dive, New Copper, 63 (Apr).
College Offers Intensive Welding Program, Oklahoma Junior—B. Bashore, 47 (Aug).
College Readiness Program for Columbus Middle School Students Helps Prime the Welding Engineering Pipeline, A—D. W. Dickinson, C. Crook and B. Gonzalez, 40 (Sept).
Composites, Conferences Reveal Strengths and Weaknesses of—Andrew Cullison, 49 (Mar).
Computer-Aided Welding Design—C. L. Tsai, 25 (June).
Computer Program Speeds Ferrite Calculation—B. M. Lacey, 56 (June).
Concrete: Which Offers the Most for Heavy Construction?, Steel vs.—J. Weber, A. Cullison and R. Leonard, 18 (May).
Conference Punctuates Structural Plastics and Their Joining—Andrew Cullison, 63 (July).
Construction?, Steel vs. Concrete: Which Offers the Most for Heavy—J. Weber, A. Cullison and R. Leonard, 18 (May).
Construction, Structural Steel Hot Work: A Serious Lead Hazard in—J. F. Rekus, 25 (Sept).
Control System, Expert System Technology—an Avenue to an Intelligent Weld Process—R. E. Reeves, T. D. Manley, A. Potter and D. R. Ford, 33 (June).
Controller Adapts to Small Batch or Just-in-Time Manufacturing, Robot—B. R. Chickering, 67 (Apr).
Copper Coating System Makes Biofouling Take a Dive, New, 63 (Apr).
Copper-to-Copper Joints Brazed with Metglas® MBF-2005 and BCuP-5 Filler Metals, Stability to Aging of—A. Rabinkin, 29 (Oct).
Cracking Caused by Entrapped Helium, Remote Reactor Repair: GTA Weld—W. R. Kanne, Jr., 33 (Aug).

Cracks in Steel Structural Welds in Seawater, Use of Radioactive Tracers for Detecting—J. E. Jones, C. A. Natalie and M. Burns, 47 (Sept).
Cutting, A Microprocessor-based Shape and Velocity Control System for Plasma Arc—S. -J. Na, S. -W. Park, S. -H. Cho and T. -J. Lho, 27 (Feb).
Cutting Power Supplies Explained, Plasma Arc—M. B. Frappier, 48 (Feb).
Cutting System Proves a Cut above the Ordinary, Plasma Arc, 45 (Feb).

Defense Contractor Expands EB Capabilities, 58 (Jan).
Design, Computer-Aided Welding—C. L. Tsai, 25 (June).
Development and Implementation of High-Speed Laser Beam Welding in the Can-Making Industry, The—C. M. Sharp and C. J. Nilsen, 25 (Jan).
Development of a Weld Procedure to Repair Joints in a Railroad-Type Track—T. A. Siewert, 17 (Aug).
Diffusion Welding of Nickel to Stainless Steel, Solid-State—G. R. Kamat, 44 (June).
Digipulse System, Adaptive Pulsed GMAW Control: The—J. F. Collard, 35 (Nov).
Dihedral Angle Equations for Tubular Joints and Related Applications, Local—W. H. Luyties and J. W. Post, 51 (Apr).
Distortion, Laser Beam Tacking for Minimizing—R. D. Dixon, G. K. Lewis and F. F. Flick, 31 (Jan).
Drinking Water Regulations, Lead-Free Solder to Meet New Safe—T. S. Bannos, 23 (Oct).
Duplex Stainless Steel Alloy Proves to Be Ally in Boiler Tube Maintenance, 53 (Nov).
Duplex Stainless Steels, Weldability Aspects and Weld Joint Properties of—B. Lundqvist and P. Norberg, 45 (July).

EB Capabilities, Defense Contractor Expands, 58 (Jan).
EBW vs. LBW—A Comparative Look at the Cost and Performance Traits of Both Processes—D. E. Powers and G. R. LaFlamme, 25 (Mar).
Education, Ohio Vo-Tech School Intends to Remain on the Cutting Edge of—Howard Woodward, 56 (May).
Educators Define Needs in Midwest Welder Training—Jeff Weber, 42 (Mar).
Effect of Aluminum on the Ti-O-B-N Balance in Submerged Arc Welding—J. Burkhardt, T. Lau, T. H. North and G. L'Esperance, 25 (Aug).
Effects of Load on Brazing with Metglas® MBF-2005 Filler Metal—A. Rabinkin and S. Pounds, 33 (May).
Eight Points to Ponder for Safe Welding and Cutting—M. E. Kennebeck, 67 (Sept).
Electron Beam Welding of AISI 9310, Laser Beam Versus—D. K. Wills and A. C. Grow, 38 (Dec).
Electron Beam Welding of Nickel-Aluminum Bronze—T. M. Mustaleski, Jr., R. L. McCaw and J. E. Sims, 53 (July).
Electron Beam Welding, Radiation Sources Encapsulated by, 59 (May).
Establishing Quality Control of Welded Sheet Metal Products—L. Boyles, 20 (Dec).
Expert System Technology—an Avenue to an Intelligent Weld Process Control System—R. E. Reeves, T. D. Manley, A. Potter and D. R. Ford, 33 (June).
Extractor Seizes the Dirt at Its Source, 77 (Sept).
Eye Safety: A Sensible Approach, Industrial—R. Foster, 71 (Sept).

Factors Affecting Thermal Fatigue Life of LCCC Solder Joints—T. A. Krinke and D. K. Pai, 33 (Oct).
Family of Ni-Pd Brazing Alloys Introduced, 66 (July).
FCA Welding is a Breeze in the Windy City, Self-Shielded, 47 (Mar).
Ferrite Calculation, Computer Program Speeds—B. M. Lacey, 56 (June).
Fitness-for-Purpose Assessment of Weld Flaws—Application of Various Fracture Mechanics Codes—J. Spiekhout, 55 (Sept).
Flaws—Application of Various Fracture Mechanics Codes, Fitness-for-Purpose Assessment of Weld—J. Spiekhout, 55 (Sept).
Flux Cored Electrode, Aspirin-Makers' Headache Gets Fast Relief from Stainless Steel, 52 (June).
Forty Years of Service to the Welding Industry, OSU Department of Welding Engineering Celebrates—R. S. Green, R. B. McCauley, W. L. Green and D. W. Dickinson, 41 (Apr).
Fracture Mechanics Codes, Fitness-for-Purpose Assessment of Weld Flaws—Application of Various—J. Spiekhout, 55 (Sept).

GMAW Control: The Digipulse System, Adaptive Pulsed—J. F. Collard, 35 (Nov).
GMAW Process, Tips on Welding Aluminum with the—P. Ryan, 43 (Dec).
GTA Weld Cracking Caused by Entrapped Helium, Remote Reactor Repair:—W. R. Kanne, Jr., 33 (Aug).
GTA Welding Make a Fine Brew, Aluminum Barrels and, 45 (Aug).
Guidelines to Gain Self-Sufficiency in Robotic Welding—C. Miller, 41 (Nov).

Health Issues, A Historical View of Welding Safety and—A. F. Manz, 35 (Sept).
High-Nickel Alloys: Different but Not Difficult, Welding—S. D. Kiser, 55 (Oct).
High-Yield Steels, One-Sided Welding of—R. W. McClellan, 25 (July).
Historical View of Welding Safety and Health Issues, A—A. F. Manz, 35 (Sept).

Improved Off-line Programming for Robotic Welding Is in the Works, 55 (June).
Industrial Eye Safety: A Sensible Approach—R. Foster, 71 (Sept).
Initial Study of Remotely Manipulated Stud Welding for Space Applications, An—K. Masubuchi, A. Imakita and M. Miyake, 25 (Apr).
Inspection Criteria Require Sound Justification, Revised Visual—D. R. Timberlake, 38 (Feb).
Integrated Circuits Using Method 2003 of Mil-Std-883, Lessons Learned in Testing—B. Slay, 41 (Oct).
Intelligent Weld Process Control System, Expert System Technology—an Avenue to an—R. E. Reeves, T. D. Manley, A. Potter and R. D. Ford, 33 (June).
International Welding Equipment Update, WELDEX 87—An—Jeff Weber, 35 (Jan).

Jet Engines Flying, Automation Keeps—Andrew Cullison, 46 (Dec).
Joint Properties of Duplex Stainless Steels, Weldability Aspects and Weld—B. Lundqvist and P. Norberg, 45 (July).

Laser Beam Tacking for Minimizing Distortion—R. D. Dixon, G. K. Lewis and F. F. Flick, 31 (Jan).
Laser Beam Welding in the Can-Making Industry, The Development and Implementation of High-Speed—C. M. Sharp and C. J. Nilsen, 25 (Jan).
Laser Beam Welding with Fiber Optics Heats Both Sides Simultaneously, 47 (Nov).
Laser Beam Versus Electron Beam Welding of AISI 9310 Material—D. K. Wills and A. C. Grow, 38 (Dec).
LBW—A Comparative Look at the Cost and Performance Traits of Both Processes, EBW vs.—D. E. Powers and G. R. LaFlamme, 25 (Mar).

Lead-Free Solder to Meet New Safe Drinking Water Regulations—T. S. Bannos, 23 (Oct).
Lead Hazard in Construction, Structural Steel Hot Work: A Serious—J. F. Rekus, 25 (Sept).
Lessons Learned in Testing Solderability of Integrated Circuits Using Method 2003 of Mil-Std-883—B. Slay, 41 (Oct).
Load on Brazing with Metglas® MBF-2005 Filler Metal, Effects of—A. Rabinkin and S. Pounds, 33 (May).
Local Dihedral Angle Equations for Tubular Joints and Related Applications—W. H. Luyties and J. W. Post, 51 (Apr).

Magnesium Passes the Test for Testing Equipment, 71 (Apr).
Masts Mean Smooth Sailing Ahead, Welded, 46 (Jan).
Microprocessor-based Shape and Velocity Control System for Plasma Arc Cutting, A—S. -J. Na, S. -W. Park, S. -H. Cho and T. -J. Lho, 27 (Feb).
Midwest Welder Training, Educators Define Needs in—Jeff Weber, 42 (Mar).
Modern-Day Welding, Old-World Elegance Made Possible by—A. Gutman, I. P. Lew and L. Zborovsky, 49 (June).
Multipass Welding Applications, The Use of Vision Sensors in—R. J. Beattie, S. K. Cheng and P. S. Logue, 28 (Nov).

Naval Machinery at SIMA, Thermal Spray Repair for—R. A. Sulit, F. West and G. Mogan, 31 (Dec).
New Orleans, Louisiana, SPECIAL REPORT: 1988 AWS Welding Show—Jeff Weber and Andrew Cullison, 17 (July).
Nickel-Aluminum Bronze, Electron Beam Welding of—T. M. Mustaleski, Jr., R. L. McCaw and J. E. Sims, 53 (July).
Nickel to Stainless Steel, Solid-State Diffusion Welding of—G. R. Kamat, 44 (June).
1988 AWS Welding Show—New Orleans, Louisiana, SPECIAL REPORT:—Jeff Weber and Andrew Cullison, 17 (July).
Ni-Pd Brazing Alloys Introduced, Family of, 66 (July).
Nuclear Power Plant, Addressing Employee Concerns about Welding in a—J. C. Danko, D. D. Hansen and P. D. O'Leary, 33 (Mar).
Nuclear Waste Containers Clad with Strip Electrodes, 53 (Mar).

Ohio State Welding Students Demonstrate Proficiency by Predicting SAW Performance, 50 (Oct).
Ohio Vo-Tech School Intends to Remain on the Cutting Edge of Education—Howard Woodward, 56 (May).
Oklahoma Junior College Offers Intensive Welding Program—B. Bashore, 47 (Aug).
Old-World Elegance Made Possible by Modern-Day Welding—A. Gutman, I. P. Lew and L. Zborovsky, 49 (June).
One-Sided Welding of High-Yield Steels—R. W. McClellan, 25 (July).
OSU Department of Welding Engineering Celebrates Forty Years of Service to the Welding Industry—R. S. Green, R. B. McCauley, W. L. Green and D. W. Dickinson, 41 (Apr).

PAC, Prefabricated Building Manufacturer Cuts Out Shearing and Switches to, 61 (July).
Plasma Arc Cutting, A Microprocessor-based Shape and Velocity Control System for—S. -J. Na, S. -W. Park, S. -H. Cho and T. -J. Lho, 27 (Feb).
Plasma Arc Cutting Power Supplies Explained—M. B. Frappier, 48 (Feb).
Plasma Arc Cutting System Proves a Cut above the Ordinary, 45 (Feb).
Plasma Arc Process—A Review, The—E. Craig, 19 (Feb).
Plastics and Their Joining, Conference Punctuates Structural—Andrew Cullison, 63 (July).
Power Plant, Addressing Employee Concerns about Welding in a Nuclear—J. C. Danko, D. D. Hansen and P. D. O'Leary, 33 (Mar).
Practical Way to Measure the Strength of Small Soldered Joints, A—J. J. Ramon and S. F. Dirnfeld, 19 (Oct).
Prefabricated Building Manufacturer Cuts Out Shearing and Switches to PAC, 61 (July).
PRIDE Serves a Welder with Pride—Howard Woodward, 79 (Sept).
Programming for Robotic Welding Is in the Works, Improved Off-line, 55 (June).
Production Efficiency Increases with Automated RW System, 50 (Dec).

Radiation Sources Encapsulated by Electron Beam Welding, 59 (May).
Radioactive Tracers for Detecting Cracks in Steel Structural Welds in Seawater, Use of—J. E. Jones, C. A. Natalie and M. Burns, 47 (Sept).
Radiographic Examination Takes on an Automated Image—J. Aman, 57 (Feb).
Railroad-Type Track, Development of a Weld Procedure to Repair Joints in a—T. A. Siewert, 17 (Aug).
Reactor Repair: GTA Weld Cracking Caused by Entrapped Helium, Remote—W. R. Kanne, Jr., 33 (Aug).
Remote Reactor Repair: GTA Weld Cracking Caused by Entrapped Helium—W. R. Kanne, Jr., 33 (Aug).
Repair for Naval Machinery at SIMA, Thermal Spray—R. A. Sulit, F. West and G. Mogan, 31 (Dec).
Repair of Susquehanna Unit 1 Steam Dryer, Wet Underwater Weld—J. E. O'Sullivan, 19 (June).
Repair: GTA Weld Cracking Caused by Entrapped Helium, Remote Reactor—W. R. Kanne, Jr., 33 (Aug).
Repair Joints in a Railroad-Type Track, Development of a Weld Procedure to—T. A. Siewert, 17 (Aug).
Resistivity Testing of Spot Welds Challenges Ultrasonics—R. Hain, 46 (May).
Revised Visual Inspection Criteria Require Sound Justification—D. R. Timberlake, 38 (Feb).
Road Graders, Robotic Arc Welding of—J. Hanright, 17 (Jan).
Robot, Arc Time Increases Threefold with, 51 (Nov).
Robot Controller Adapts to Small Batch or Just-in-Time Manufacturing—B. R. Chickering, 67 (Apr).
Robotic Arc Welding of Road Graders—J. Hanright, 17 (Jan).
Robotic Welding, Guidelines to Gain Self-Sufficiency in—C. Miller, 41 (Nov).
Robotic Welding Is in the Works, Improved Off-line Programming for, 55 (June).
Robotic Welding of Automotive Parts, Automatic and—J. F. Hinrichs and J. S. Noruk, 23 (Nov).
Robotic Welding System Chosen with Care, 53 (May).
Robotic Welding System Using Weld-Wire Touch Sensing, An Adaptive—C. P. Cullen, 17 (Nov).
Robots, Anchor Manufacturer Sinks the Competition with Help from, 48 (Aug).
Rolls, SAW Setup Surfaces Continuous Caster, 41 (Aug).

Safe Welding and Cutting, Eight Points to Ponder for—M. E. Kennebeck, 67 (Sept).
Safety and Health Issues, A Historical View of Welding—A. F. Manz, 35 (Sept).
SAW Performance, Ohio State Welding Students Demonstrate Proficency by Predicting, 50 (Oct).
SAW Setup Surfaces Continuous Caster Rolls, 41 (Aug).
Self-Shielded FCA Welding is a Breeze in the Windy City, 47 (Mar).
Sensors in Multipass Welding Applications, The Use of Vision—R. J. Beattie, S. K. Cheng and P. S. Logue, 28 (Nov).
Sheet Metal Products, Establishing Quality Control of Welded—L. Boyles, 20 (Dec).
Solder Joints, Factors Affecting Thermal Fatigue Life of LCCC—T. A. Krinke and D. K. Pai, 33 (Oct).
Solder to Meet New Safe Drinking Water Regulations, Lead-Free—T. S. Bannos, 23 (Oct).

Solderability of Integrated Circuits Using Method 2003 of Mil-Std-883, Lessons Learned in Testing—B. Slay, 41 (Oct).
Soldered Joints, A Practical Way to Measure the Strength of Small—J. J. Ramon and S. F. Dirnfeld, 19 (Oct).
Solid-State Diffusion Welding of Nickel to Stainless Steel—G. R. Kamat, 44 (June).
Space Applications, An Initial Study of Remotely Manipulated Stud Welding for—K. Masubuchi, A. Imakita and M. Miyake, 25 (Apr).
SPECIAL REPORT: 1988 AWS Welding Show—New Orleans, Louisiana—Jeff Weber and Andrew Cullison, 17 (July).
Spot Welds Challenges Ultrasonics, Resistivity Testing of—R. Hain, 46 (May).
Stability to Aging of Copper-to-Copper Joints Brazed with Metglas® MBF-2005 and BCuP-5 Filler Metals—A. Rabinkin, 29 (Oct).
Stainless Steel Alloy Proves to Be Ally in Boiler Tube Maintenance, Duplex, 53 (Nov).
Stainless Steel Flux Cored Electrode, Aspirin-Makers' Headache Gets Fast Relief from, 52 (June).
Stainless Steel, Solid-State Diffusion Welding of Nickel to—G. R. Kamat, 44 (June).
Stainless Steels, Weldability Aspects and Weld Joint Properties of Duplex—B. Lundqvist and P. Norberg, 45 (July).
Steam Dryer, Wet Underwater Weld Repair of Susquehanna Unit 1—J. E. O'Sullivan, 19 (June).
Steel Structural Welds in Seawater, Use of Radioactive Tracers for Detecting Cracks in—J. E. Jones, C. A. Natalie and M. Burns, 47 (Sept).
Steel vs. Concrete: Which Offers the Most for Heavy Construction?—J. Weber, A. Cullison and R. Leonard, 18 (May).
Strength of Small Soldered Joints, A Practical Way to Measure the—J. J. Ramon and S. F. Dirnfeld, 19 (Oct).
Strip Cladding: Process Control, Vertical—W. R. Schick, 17 (Mar).
Strip Electrodes, Nuclear Waste Containers Clad with, 53 (Mar).
Structural Field, Adhesives Grab Hold in the—Andrew Cullison, 51 (Jan).
Structural Steel Hot Work: A Serious Lead Hazard in Construction—J. F. Rekus, 25 (Sept).
Stud Welding for Space Applications, An Initial Study of Remotely Manipulated—K. Masubuchi, A. Imakita and M. Miyake, 25 (Apr).
Students Become Subcontractors, Welding—P. McNew, 53 (Feb).
Students Demonstrate Proficiency by Predicting SAW Performance, Ohio State Welding, 50 (Oct).
Subcontractors, Welding Students Become—P. McNew, 53 (Feb).
Submerged Arc Welding, Effect of Aluminum on the Ti-O-B-N Balance in—J. Burkhardt, T. Lau, T. H. North and G. L'Esperance, 25 (Aug).

Tacking for Minimizing Distortion, Laser Beam—R. D. Dixon, G. K. Lewis and F. F. Flick, 31 (Jan).
Tensile Specimen, Choosing a Welding Procedure to Produce a Ten-Meter-Long—T. A. Siewert and G. E. Hicho, 35 (Feb).
Testing Equipment, Magnesium Passes the Test for, 71 (Apr).
Testing of Spot Welds Challenges Ultrasonics, Resistivity—R. Hain, 46 (May).
Theme Parks Around the World, Welding Gives a Wild Ride to—Andrew Cullison, 37 (Mar).
Thermal Fatigue Life of LCCC Solder Joints, Factors Affecting—T. A. Krinke and D. K. Pai, 33 (Oct).
Thermal Spray Repair for Naval Machinery at SIMA—R. A. Sulit, F. West and G. Mogan, 31 (Dec).
Ti-O-B-N Balance in Submerged Arc Welding, Effect of Aluminum on the—J. Burkhardt, T. Lau, T. H. North and G. L'Esperance, 25 (Aug).
Tips on Welding Aluminum with the GMAW Process—P. Ryan, 43 (Dec).
Track, Development of a Weld Procedure to Repair Joints in a Railroad-Type—T. A. Siewert, 17 (Aug).
Training, Educators Define Needs in Midwest Welder—Jeff Weber, 42 (Mar).
Tubular Joints and Related Applications, Local Dihedral Angle Equations for—W. H. Luwties and J. W. Post, 51 (Apr).

Ultrasonics, Resistivity Testing of Spot Welds Challenges—R. Hain, 46 (May).
Underwater Weld Repair of Susquehanna Unit 1 Steam Dryer, Wet—J. E. O'Sullivan, 19 (June).
Use of Radioactive Tracers for Detecting Cracks in Steel Structural Welds in Seawater—J. E. Jones, C. A. Natalie and M. Burns, 47 (Sept).
Use of Vision Sensors in Multipass Welding Applications, The—R. J. Beattie, S. K. Cheng and P. S. Logue, 28 (Nov).
Using the Right Tool for Weld Finishing Gives Scintillating Results, 47 (Oct).

Vertical Strip Cladding: Process Control—W. R. Schick, 17 (Mar).
Visual Inspection Criteria Require Sound Justification, Revised—D. R. Timberlake, 38 (Feb).

Weld Fabrication Proves a Bright Spot for Sunbelt Company, 52 (Oct).
Weld Finishing Gives Scintillating Results, Using the Right Tool for, 47 (Oct).
Weld Procedure to Repair Joints in a Railroad-Type Track, Development of a—T. A. Siewert, 17 (Aug).
Weld Properties of the Newly Developed 2519-T87 Aluminum Armor Alloy—S. M. DeVincent, J. H. Devletian and S. A. Gedeon, 33 (July).
Weldability Aspects and Weld Joint Properties of Duplex Stainless Steels—B. Lundqvist and P. Norberg, 45 (July).
Welded Masts Mean Smooth Sailing Ahead, 46 (Jan).
WELDEX 87—An International Welding Equipment Update—Jeff Weber, 35 (Jan).
Welding Engineering Celebrates Forty Years of Service to the Welding Industry, OSU Department of—R. S. Green, R. B. McCauley, W. L. Green and D. W. Dickinson, 41 (Apr).
Welding Engineering Pipeline, A College Readiness Program for Columbus Middle School Students Helps Prime the Welding Engineering Pipeline—D. W. Dickinson, C. Crook and B. Gonzalez, 40 (Sept).
Welding Gives a Wild Ride to Theme Parks Around the World—Andrew Cullison, 37 (Mar).
Welding High-Nickel Alloys: Different but Not Difficult—. S. D. Kiser, 55 (Oct).
Welding of Automotive Parts, Automatic and Robotic—J. F. Hinrichs and J. S. Noruk, 23 (Nov).
Welding Procedure to Produce a Ten-Meter-Long Tensile Specimen, Choosing a—T. A. Siewert and G. E. Hicho, 35 (Feb).
Welding Program, Oklahoma Junior College Offers Intensive—B. Bashore, 47 (Aug).
Welding Safety and Health Issues, A Historical View of—A. F. Manz, 35 (Sept).
Welding Students Become Subcontractors—P. McNew, 53 (Feb).
Welding Wire Packages—What's Right for You?, 75 (Apr).
Weld-Wire Touch Sensing, An Adaptive Robotic Welding System Using—C. P. Cullen, 17 (Nov).
Wet Underwater Weld Repair of Susquehanna Unit 1 Steam Dryer—J. E. O'Sullivan, 19 (June).
Wire Packages—What's Right for You?, Welding, 75 (Apr).

AUTHOR INDEX

Aman, J. – Radiographic Examination Takes on an Automated Image, 57 (Feb).

Bannos, T. S. – Lead-Free Solder to Meet New Safe Drinking Water Regulations, 23 (Oct).
Bashore, B. – Oklahoma Junior College Offers Intensive Welding Program, 47 (Aug).
Beattie, R. J., Cheng, S. K., and Logue, P. S. – The Use of Vision Sensors in Multipass Welding Applications, 28 (Nov).
Boyles, L. – Establishing Quality Control of Welded Sheet Metal Products, (Dec).
Burkhardt, J., Lau, T., North, T. H., and L'Esperance, G. – Effect of Aluminum on the Ti-O-B-N Balance in Submerged Arc Welding, 25 (Aug).
Burns, M., Jones, J. E., and Natalie, C. A. – Use of Radioactive Tracers for Detecting Cracks in Steel Structural Welds in Seawater, 47 (Sept).

Cheng, S. K., Logue, P. S., and Beattie, R. J. – The Use of Vision Sensors in Multipass Welding Applications, 28 (Nov).
Chickering, B. R. – Robot Controller Adapts to Small Batch or Just-in-Time Manufacturing, 67 (Apr).
Cho, S. -H., Lho, T. -J., Na, S. -J., and Park, S. -W. – A Microprocessor-based Shape and Velocity Control System for Plasma Arc Cutting, 27 (Feb).
Collard, J. F. – Adaptive Pulsed GMAW Control: The Digipulse System, 35 (Nov).
Craig, E. – The Plasma Arc Process – A Review, 19 (Feb).
Crook, C., Gonzalez, B., and Dickinson, D. W. – A College Readiness Program for Columbus Middle School Students Helps Prime the Welding Engineering Pipeline, 40 (Sept).
Cullen, C. P. – An Adaptive Robotic Welding System Using Weld-Wire Touch Sensing, 17 (Nov).
Cullison, Andrew – Adhesives Grab Hold in the Structural Field, 51 (Jan).
Cullison, Andrew – Automation Keeps Jet Engines Flying, 46 (Dec).
Cullison, Andrew – Conference Punctuates Structural Plastics and Their Joining, 63 (July).
Cullison, Andrew – Conferences Reveal Strengths and Weaknesses of Composites, 49 (Mar).
Cullison, Andrew, and Weber, Jeff – SPECIAL REPORT: 1988 AWS Welding Show – New Orleans, Louisiana, 17 (July).
Cullison, A., Leonard, R., and Weber, J. – Steel vs. Concrete: Which Offers the Most for Heavy Construction?, 18 (May).
Cullison, Andrew – Welding Gives a Wild Ride to Theme Parks Around the World, 37 (Mar).

Danko, J. C., Hansen, D. D., and O'Leary, P. D. – Addressing Employee Concerns about Welding in a Nuclear Power Plant, 33 (Mar).
DeVincent, S. M., Devletian, J. H., and Gedeon, S. A. – Weld Properties of the Newly Developed 2519-T87 Aluminum Armor, 33 (July).
Devletian, J. H., Gedeon, S. A., and DeVincent, S. M. – Weld Properties of the Newly Developed 2519-T87 Aluminum Armor, 33 (July).
Dickinson, D. W., Crook, C., and Gonzalez, B. – A College Readiness Program for Columbus Middle School Students Helps Prime the Welding Engineering Pipeline, 40 (Sept).
Dickinson, D. W., Green, R. S., McCauley, R. B., and Green, W. L. – OSU Department of Welding Engineering Celebrates Forty Years of Service to the Welding Industry, 41 (Apr).
Dirnfeld, S. F., and Ramon, J. J. – A Practical Way to Measure the Strength of Small Soldered Joints, 19 (Oct).
Dixon, R. D., Lewis, G. K., and Flick, F. F. – Laser Beam Tacking for Minimizing Distortion, 31 (Jan).

Flick, F. F., Dixon, R. D., and Lewis, G. K. – Laser Beam Tacking for Minimizing Distortion, 31 (Jan).
Ford, D. R., Reeves, R. E., Manley, T. D., and Potter, A. – Expert System Technology – an Avenue to an Intelligent Weld Process Control System, 33 (June).
Foster, R. – Industrial Eye Safety: A Sensible Approach, 71 (Sept).
Frappier, M. B. – Plasma Arc Cutting Power Supplies Explained, 49 (Feb).

Gedeon, S. A., DeVincent, S. M., and Devletian, J. H. – Weld Properties of the Newly Developed 2519-T87 Aluminum Armor, 33 (July).
Gonzalez, B., Dickinson, D. W., and Crook, C. – A College Readiness Program for Columbus Middle School Students Helps Prime the Welding Engineering Pipeline, 40 (Sept).
Green, R. S., McCauley, R. B., Green, W. L., and Dickinson, D. W. – OSU Department of Welding Engineering Celebrates Forty Years of Service to the Welding Industry, 41 (Apr).
Green, W. L., Dickinson, D. W., Green, R. S., and McCauley, R. B. – OSU Department of Welding Engineering Celebrates Forty Years of Service to the Welding Industry, 41 (Apr).
Gutman, A., Lew, I. P., and Zborovsky, L. – Old-World Elegance Made Possible by Modern-Day Welding, 49 (June).

Hain, R. – Resistivity Testing of Spot Welds Challenges Ultrasonics, 46 (May).
Hanright, J. – Robotic Arc Welding of Road Graders, 17 (Jan).
Hansen, D. D., O'Leary, P. D., and Danko, J. C. – Addressing Employee Concerns about Welding in a Nuclear Power Plant, 33 (Mar).
Hicho, G. E., and Siewert, T. A. – Choosing a Welding Procedure to Produce a Ten-Meter-Long Tensile Specimen, 35 (Feb).
Hinrichs, J. F., and Noruk, J. S. – Automatic and Robotic Welding of Automotive Parts, 23 (Nov).

Imakita, A., Miyake, M., and Masubuchi, K. – An Initial Study of Remotely Manipulated Stud Welding for Space Applications, 25 (Apr).

Jones, J. E., Natalie, C. A., and Burns, M. – Use of Radioactive Tracers for Detecting Cracks in Steel Structural Welds in Seawater, 47 (Sept).

Kiser, S. D. – Welding High-Nickel Alloys: Different but Not Difficult, 55 (Oct).
Kamat, G. R. – Solid-State Diffusion Welding of Nickel to Stainless Steel, 44 (June).
Kanne, Jr., W. R. – Remote Reactor Repair: GTA Weld Cracking Caused by Entrapped Helium, 33 (Aug).
Kennebeck, M. E. – Eight Points to Ponder for Safe Welding and Cutting, 67 (Sept).
Krinke, T. A., and Pai, D. K. – Factors Affecting Thermal Fatigue Life of LCCC Solder Joints, 33 (Oct).

Lacey, B. M. – Computer Program Speeds Ferrite Calculation, 56 (June).
LaFlamme, G. R., and Powers, D. E. – EBW vs. LBW – A Comparative Look at the Cost and Performance Traits of Both Processes, 25 (Mar).
Lau, T., North, T. H., L'Esperance, G., and Burkhardt, J. – Effect of Aluminum on the Ti-O-B-N Balance in Submerged Arc Welding, 25 (Aug).
L'Esperance, G., Burkhardt, J., Lau, T., and North, T. H. – Effect of Aluminum on the Ti-O-B-N Balance in Submerged Arc

Welding, 25 (Aug).
Lew, I. P., Zborovsky, L., and Gutman, A. — Old-World Elegance Made Possible by Modern-Day Welding, 49 (June).
Lewis, G. K., Flick, F. F., and Dixon, R. D. — Laser Beam Tacking for Minimizing Distortion, 31 (Jan).
Lho, T. -J., Na, S. -J., Park, S. -W., and Cho, S. -H. — A Microprocessor-based Shape and Velocity Control System for Plasma Arc Cutting, 27 (Feb).
Logue, P. S., Beattie, R. J., and Cheng, S. K. — The Use of Vision Sensors in Multipass Welding Applications, 28 (Nov).
Lundqvist, B., and Norberg, P. — Weldability Aspects and Weld Joint Properties of Duplex Stainless Steels, 45 (July).
Luyties, W. H., and Post, J. W. — Local Dihedral Angle Equations for Tubular Joints and Related Applications, 51 (Apr).

Manley, T. D., Potter, A., Ford, D. R., and Reeves, R. E. — Expert System Technology — an Avenue to an Intelligent Weld Process Control, 33 (June).
Manz, A. F. — A Historical View of Welding Safety and Health Issues, 35 (Sept).
Masubuchi, K., Imakita, A., and Miyake, M. — An Initial Study of Remotely Manipulated Stud Welding for Space Applications, 25 (Apr).
McCauley, R. B., Green, W. L., Dickinson, D. W., and Green, R. S. — OSU Department of Welding Engineering Celebrates Forty Years of Service to the Welding Industry, 41 (Apr).
McCaw, R. L., Sims, J. E., and Mustaleski, Jr., T. M. — Electron Beam Welding of Nickel-Aluminum Bronze, 53 (July).
McClellan, R. W. — One-Sided Welding of High-Yield Steels, 25 (July).
McNew, P. — Welding Students Become Subcontractors, 53 (Feb).
Miller, C. — Guidelines to Gain Self-Sufficiency in Robotic Welding, 41 (Nov).
Miyake, M., Masubuchi, K., and Imakita, A. — An Initial Study of Remotely Manipulated Stud Welding for Space Applications, 25 (Apr).
Mogan, G., Sulit, R., and West, F. — Thermal-Spray Repair for Naval Machinery at SIMA San Diego (Dec).
Mustaleski, Jr., T. M., McCaw, R. L., and Sims, J. E. — Electron Beam Welding of Nickel-Aluminum Bronze, 53 (July).

Na, S. -J., Park, S. -W., Cho, S. -H., and Lho, T. -J. — A Microprocessor-based Shape and Velocity Control System for Plasma Arc Cutting, 27 (Feb).
Natalie, C. A., Burns, M., and Jones, J. E. — Use of Radioactive Tracers for Detecting Cracks in Steel Structural Welds in Seawater, 47 (Sept).
Nilsen, C. J., and Sharp, C. M. — The Development and Implementation of High-Speed Laser Beam Welding in the Can-Making Industry, 25 (Jan).
Norberg, P., and Lundqvist, B. — Weldability Aspects and Weld Joint Properties of Duplex Stainless Steels, 45 (July).
North, T. H., L'Esperance, G., Burkhardt, J., and Lau, T. — Effect of Aluminum on the Ti-O-B-N Balance in Submerged Arc Welding, 25 (Aug).
Noruk, J. S., and Hinrichs, J. F. — Automatic and Robotic Welding of Automotive Parts, 23 (Nov).

O'Leary, P. D., Danko, J. C., and Hansen, D. D. — Addressing Employee Concerns about Welding in a Nuclear Power Plant, 33 (Mar).
O'Sullivan, J. E. — Wet Underwater Weld Repair of Susquehanna Unit 1 Steam Dryer, 19 (June).

Pai, D. K., and Krinke, T. A. — Factors Affecting Thermal Fatigue Life of LCCC Solder Joints, 33 (Oct).
Park, S. -W., Cho, S. -H., Lho, T. -J., and Na, S. -J. — A Microprocessor-based Shape and Velocity Control System for Plasma Arc Cutting, 27 (Feb).
Post, J. W., and Luyties, W. H. — Local Dihedral Angle Equations for Tubular Joints and Related Applications, 51 (Apr).
Potter, A., Ford, D. R., Reeves, R. E., and Manley, T. D. — Expert System Technology — an Avenue to an Intelligent Weld Process Control System, 33 (June).
Pounds, S., and Rabinkin, A. — Effects of Load on Brazing with Metglas® MBF-2005 Filler Metal, 33 (May).
Powers, D. E., and LaFlamme, G. R. — EBW vs. LBW — A Comparative Look at the Cost and Performance Traints of Both Processes, 25 (Mar).

Rabinkin, A., and Pounds, S. — Effects of Load on Brazing with Metglas® MBF-2005 Filler Metal, 33 (May).
Rabinkin, A. — Stability to Aging of Copper-to-Copper Joints Brazed with Metglas® MBF-2005 and BCuP-5 Filler Metals, 29 (Oct).
Ramon, J. J., and Dirnfeld, S. R. — A Practical Way to Measure the Strength of Small Soldered Joints, 19 (Oct).
Ryan, P. — Tips on Welding Aluminum with the GMAW Process, 43 (Dec).
Reeves, R. E., Manley, T. D., Potter, A., and Ford, D. R. — Expert System Technology — an Avenue to an Intelligent Weld Process Control System, 33 (June).
Rekus, J. F. — Structural Steel Hot Work: A Serious Lead Hazard in Construction, 25 (Sept).

Schick, W. R. — Vertical Strip Cladding: Process Control, 17 (Mar).
Sharp, C. M., and Nilsen, C. J. — The Development and Implementation of High-Speed Laser Beam Welding in the Can-Making Industry, 25 (Jan).
Siewert, T. A., and Hicho, G. E. — Choosing a Welding Procedure to Produce a Ten-Meter-Long Tensile Specimen, 35 (Feb).
Siewert, T. A. — Development of a Weld Procedure to Repair Joints in a Railroad-Type Track, 17 (Aug).
Sims, J. E., Mustaleski , Jr., T. M., and McCaw, R. L. — Electron Beam Welding of Nickel-Aluminum Bronze, 53 (July).
Slay, B. — Lessons Learned in Testing Solderability of Integrated Circuits Using Method 2003 of Mil-Std-883, 41 (Oct).
Spiekhout, J. — Fitness-for-Purpose Assessment of Weld Flaws — Application of Various Fracture Mechanics Codes, 55 (Sept).
Sulit, R., West, F., and Mogan, G. — Thermal-Spray Repair for Naval Machinery at SIMA San Diego (Dec).

Timberlake, D. R. — Revised Visual Inspection Criteria Require Sound Justification, 38 (Feb).
Tsai, C. L. — Computer-Aided Welding Design, 25 (June).

Weber, Jeff — Educators Define Needs in Midwest Welder Training, 42 (Mar).
Weber, Jeff — WELDEX 87 — An International Welding Equipment Update, 35 (Jan).
Weber, Jeff, and Cullison, Andrew — SPECIAL REPORT: 1988 AWS Welding Show — New Orleans, Louisiana, 17 (July).
Weber, J., Cullison, A., and Leonard, R. — Steel vs. Concrete: Which Offers the Most for Heavy Construction?, 18 (May).
West, F., Mogan, G., and Sulit, R. — Thermal-Spray Repair for Naval Machinery at SIMA San Diego (Dec).
Wills, D. K. and Grow, A. C. — Laser Beam Versus Electron Beam Welding of AISI 9310, 38 (Dec).
Woodward, Howard — Ohio Vo-Tech School Intends to Remain on the Cutting Edge of Education, 56 (May).
Woodward, Howard — PRIDE Serves a Welder with Pride, 79 (Sept).

Zborovsky, L., Gutman, A., and Lew, I. P. — Old-World Elegance Made Possible by Modern-Day Welding, 49 (June).

Part 2—WELDING RESEARCH SUPPLEMENT

SUBJECT INDEX

Al-Li-Cu-Mg Alloy, Elevated Temperature Mechanical Properties of—D. K. Aidun and T. Zacharia, 281-s (Dec).
Alloy 903, A Study of Heat-Affected Zone and Weld Metal Liquation Cracking in—W. A. Baeslack III, W. P. Lata and S. L. West, 77-s (Apr).
Aluminum, Inertia Friction Welding of Rapidly Solidified Powder Metallurgy—W. A. Baeslack III and K. S. Hagey, 139-s (July).
Aluminum Material with Improved Brazing Properties, A Multilayer Clad—H. Engstrom and L.-O. Gullman, 222-s (Oct).
Aluminum T-Joint Fillet Welds, Strength of—C. Marsh, 171-s (Aug).
Arc and Weld Pool Behavior for Pulsed Current GTAW—H. R. Saedi and W. Unkel, 247-s (Nov).
Austenitic Alloys for Cryogenic Service: Part II—High-Nitrogen Stainless Steel Weld Metal, Weldability of Newly Developed—T. Ogawa and T. Koseki, 8-s (Jan).
Autogenous Welding, Modeling of—T. Zacharia, A. H. Eraslan and D. K. Aidun, 53-s (Mar).

Behavior of Silver-Aided Diffusion-Welded Joints under Tensile and Torsional Loads, The—J. W. Elmer, M. E. Kassner and R. S. Rosen, 157-s (July).
Brazing Ceramic Oxides to Metals at Low Temperatures—J. P. Hammond, S. A. David and M. L. Santella, 227-s (Oct).
Brazing of Stainless Steel with Low-Phosphorus Nickel-Based Filler Metal, High-Temperature—E. Lugscheider and T. Cosak, 215-s (Oct).
Brazing Properties, A Multilayer Clad Aluminum Material with Improved—H. Engstrom and L.-O. Gullman, 222-s (Oct).
Brazing with Nickel-Base Filler Metals, Wide Joint Clearance—E. Lugscheider, V. Dietrich and J. Mittendorff, 47-s (Feb).

Capacitor Discharge Welding, Rapid Solidification of Stainless Steels by—S. Venkataraman and J. H. Devletian, 111-s (June).
Ceramic Oxides to Metals at Low Temperatures, Brazing—J. P. Hammond, S. A. David and M. L. Santella, 227-s (Oct).
Cerium and Titanium Additions on Hot Cracking in Welds of a Cr-Mo-V Rotor Steel, The Effects of—A.-L. Lu, S. Y. Yoo and A. W. Pense, 177-s (Aug).
Coating Weight Effect on the Resistance Spot Weldability of Electrogalvanized Sheet Steels—P. Howe and S. C. Kelley, 271-s (Dec).
Cooling Rate on Ferrite in Type 308 Stainless Steel, The Effect of—J. M. Vitek and S. A. David, 95-s (May).
Cracking in Alloy 903, A Study of Heat-Affected Zone and Weld Metal Liquation—W. A. Baeslack III, W. P. Lata and S. L. West, 77-s (Apr).
Cracking in FCA Welds on HY-80 Steel, Investigation of Hydrogen-Assisted—E. F. Nippes and D. J. Xiong, 131-s (June).
Cracking in High-Strength Pipeline Steels, Hydrogen-Assisted—E. G. Signes and P. Howe, 163-s (Aug).
Cracking in Stainless Steel, The Effects of Heat Input and Weld Process on Hot—G. M. Goodwin, 88-s (Apr).
Cryogenic Service: Part II—High-Nitrogen Stainless Steel Weld Metal, Weldability of Newly Developed Austenitic Alloys for—T. Ogawa and T. Koseki, 8-s (Jan).
Current Distributions in Gas Tungsten Arcs, Power and—M. Lu and S. Kou, 29-s (Feb).

Data Acquisition and Analysis for EB Welding in Perspective—J. O. Milewski, S. Fetzko and R. D. Dixon, 256-s (Nov).
Diffusion-Welded Joints under Tensile and Torsional Loads, The Behavior of Silver-Aided—J. W. Elmer, M. E. Kassner and R. S. Rosen, 157-s (July).
Ductility and Weldability of Free Machining Austenitic Stainless Steel, Hot—C. D. Lundin, C. H. Lee and R. Menon, 119-s (June).

EB Welding in Perspective, Data Acquisition and Analysis for—J. O. Milewski, S. Fetzko and R. D. Dixon, 256-s (Nov).
Effect of Cooling Rate on Ferrite in Type 308 Stainless Steel, The—J. M. Vitek and S. A. David, 95-s (May).
Effects of Cerium and Titanium Additions on Hot Cracking in Welds of Cr-Mo-V Rotor Steel, The—A.-L. Lu, S. Y. Yoo and A. W. Pense, 177-s (Aug).
Effects of Heat Input and Weld Process on Hot Cracking in Stainless Steel, The—G. M. Goodwin, 88-s (Apr).
Effects of Minor Elements on the Welding Characteristics of Stainless Steel, The—B. Pollard, 202-s (Sept).
Electron Beam Depth of Penetration, Prediction of—W. H. Giedt and L. N. Tallerico, 299-s (Dec).
Electron Beam Welding, Multipass, Autogenous—J. L. Murphy, T. M. Mustaleski, Jr., and L. C. Watson, 187-s (Sept).
Elevated Temperature Mechanical Properties of Al-Li-Cu-Mg Alloy—D. K. Aidun and T. Zacharia, 281-s (Dec).
Experiments on Some Arbitrarily Loaded Fillet Welds—E. Sanaei and A. G. Kamtekar, 103-s (May).

FCA Welds on HY-80 Steel, Investigation of Hydrogen-Assisted Cracking in—E. F. Nippes and D. J. Xiong, 131-s (June).
Ferrite in Type 308 Stainless Steel, The Effect of Cooling Rate on—J. M. Vitek and S. A. David, 95-s (May).
Ferrite Number Prediction to 100 FN in Stainless Steel Weld Metal—T. A. Siewert, C. N. McGowan and D. L. Olson, 289-s (Dec).
Fillet Welds, Experiments on Some Arbitrarily Loaded—E. Sanaei and A. G. Kamtekar, 103-s (May).
Finite Element Analysis of Three-Dimensional Transient Heat Transfer in GMA Welding—P. Tekriwal and J. Mazumder, 150-s (July).
Fluid Flow and Heat Transfer in GMA Weld Pools—K. C. Tsao and C. S. Wu, 70-s (Mar).
Friction Welding of Incompatible Materials—F. Sassani and J. R. Neelam, 264-s (Nov).
Friction Welding of Rapidly Solidified Powder Metallurgy Aluminum, Inertia—W. A. Baeslack III and K. S. Hagey, 139-s (July).

Gas Tungsten Arcs, Power and Current Distributions in—M. Lu and S. Kou, 29-s (Feb).
GMA Weld Pools, Fluid Flow and Heat Transfer in—K. C. Tsao and C. S. Wu, 70-s (Mar).
GMA Welding, Finite Element Analysis of Three-Dimensional Transient Heat Transfer in —P. Tekriwal and J. Mazumder, 150-s (July).
GTAW, Arc and Weld Pool Behavior for Pulsed Current—H. R. Saedi and W. Unkel, 247-s (Nov).

Heat-Affected Zone and Weld Metal Liquation Cracking in Alloy 903, A Study of—W. A. Baeslack III, W. P. Lata and S. L. West, 77-s (Apr).
Heat Input and Weld Process on Hot Cracking in Stainless Steel,

The Effects of—G. M. Goodwin, 88-s (Apr).
Heat Transfer in GMA Weld Pools, Fluid Flow and—K. C. Tsao and C. S. Wu, 70-s (Mar).
Heat Transfer in GMA Welding, Finite Element Analysis of Three-Dimensional Transient—P. Tekriwal and J. Mazumder, 150-s (July).
High-Manganese Stainless Steels—Examination of Alloying Element Loss and Microstructural Changes, Laser Beam Welding of—P. A. A. Khan, T. Debroy and S. A. David, 1-s (Jan).
High-Temperature Brazing of Stainless Steel with Low-Phosphorus Nickel-Based Filler Metal—E. Lugscheider and T. Cosak, 215-s (Oct).
Hot Cracking in Welds of a Cr-Mo-V Rotor Steel, The Effects of Cerium and Titanium Additions on—A.-L. Lu, S. Y. Yoo and A. W. Pense, 177-s (Aug).
Hot Ductility and Weldability of Free Machining Austenitic Stainless Steel—C. D. Lundin, C. H. Lee and R. Menon, 119-s (June).
Hydrogen-Assisted Cracking in FCA Welds on HY-80 Steel, Investigation of—E. F. Nippes and D. J. Xiong, 131-s (June).
Hydrogen-Assisted Cracking in High-Strength Pipeline Steels—E. G. Signes and P. Howe, 163-s (Aug).
HY-80 Steel, Investigation of Hydrogen-Assisted Cracking in FCA Welds on—E. F. Nippes and D. J. Xiong, 131-s (June).

Inertia Friction Welding of Rapidly Solidified Powder Metallurgy Aluminum—W. A. Baeslack III and K. S. Hagey, 139-s (July).
Investigation of Hydrogen-Assisted Cracking in FCA Welds on HY-80 Steel—E. F. Nippes and D. J. Xiong, 131-s (June).

Laser Beam Welding of High-Manganese Stainless Steels—Examination of Alloying Element Loss and Microstructural Changes—P. A. A. Khan, T. Debroy and S. A. David, 1-s (Jan).

Mechanical Properties of Al-Li-Cu-Mg Alloy, Elevated Temperature—D. K. Aidun and T. Zacharia, 281-s (Dec).
Mechanical Property Relationship in Thick-Section C-Mn Narrow-Groove Welds, Microstructure/—J. T. McGrath, R. S. Chandel, R. F. Orr and J. A. Gianetto, 196-s (Sept).
Metals at Low Temperatures, Brazing Ceramic Oxides to—J. P. Hammond, S. A. David and M. L. Santella, 227-s (Oct).
Microstructure/Mechanical Property Relationships in Thick-Section and J. A. Gianetto, 196-s (Sept).
Minor Elements on the Welding Characteristics of Stainless Steel, The Effects of—B. Pollard, 202-s (Sept).
Modeling of Autogenous Welding, T. Zacharia, A. H. Eraslan and D. K. Aidun, 53-s (Mar).
Modeling of Non-Autogenous Welding—T. Zachaira, A. H. Eraslan and D. K. Aidun, 18-s (Jan).
Multilayer Clad Aluminum Material with Improved Brazing Properties, A—H. Engstrom and L.-O. Gullman, 222-s (Oct).
Multipass, Autogenous Electron Beam Welding—J. L. Murphy, T. M. Mustaleski, Jr., and L. C. Watson, 187-s (Sept).

Narrow-Groove Welds, Microstructure/Mechanical Property Relationships in Thick-Section C-Mn—J. T. McGrath, R. S. Chandel, R. F. Orr and J. A. Gianetto, 196-s (Sept).
Ni_3 Al Alloy, Welding Behavior and Microstructure of a—M. L. Santella, J. A. Horton and S. A. David, 63-s (Mar).
Nickel-Base Filler Metals, Wide Joint Clearance Brazing with—E. Lugscheider, V. Dietrich and J. Mittendorff, 47-s (Feb).
Non-Autogenous Welding, Modeling of—T. Zacharia, A. H. Eraslan and D. K. Aidun, 18-s (Jan).

Optimization of the Plasma Arc Welding Process—V. V. Bashenko and N. A. Sosnin, 233-s (Oct).

Pipeline Steels, Hydrogen-Assisted Cracking in High-Strength—E. G. Signes and P. Howe, 163-s (Aug).
Plasma Arc Welding Process, Optimization of the—V. V. Bashenko and N. A. Sosnin, 233-s (Oct).
Powder Metallurgy Aluminum, Inertia Friction Welding of Rapidly Solidified—W. A. Baeslack III and K. S. Hagey, 139-s (July).
Power and Current Distributions in Gas Tungsten Arcs—M. Lu and S. Kou, 29-s (Feb).
Prediction of Electron Beam Depth of Penetration—W. H. Giedt and L. N. Tallerico, 299-s (Dec).

Rapid Solidification of Stainless Steels by Capacitor Discharge Welding—S. Venkataraman and J. H. Devletian, 111-s (June).
Resistance Spot Weldability of Electrogalvanized Sheet Steels, Coating Weight Effect on the—P. Howe and S. C. Kelley, 271-s (Dec).

Stainless Steel, The Effects of Minor Elements on the Welding Characteristics of—B. Pollard, 202-s (Sept).
Stainless Steel, Hot Ductility and Weldability of Free Machining Austenitic—C. D. Lundin, C. H. Lee and R. Menon, 119-s (June).
Stainless Steel, The Effect of Cooling Rate on Ferrite in Type 308—J. M. Vitek and S. A. David, 95-s (May).
Stainless Steel, The Effects of Heat Input and Weld Process on Hot Cracking in—G. M. Goodwin, 88-s (Apr).
Stainless Steel Weld Metal, Ferrite Number Prediction to 100 FN in—T. A. Siewert, C. N. McGowan and D. L. Olson, 289-s (Dec).
Stainless Steel with Low-Phosphorus Nickel-Based Filler Metal, High-Temperature—E. Lugscheider and T. Cosack, 215-s (Oct).
Stainless Steels—Examination of Alloying Element Loss and Microstructural Changes, Laser Beam Welding of High-Manganese—P. A. A. Khan, T. Debroy and S. A. David, 1-s (Jan).
Stainless Steels by Capacitor Discharge Welding, Rapid Solidification of—S. Venkataraman and J. H. Devletian, 111-s (June).
Stainless Steels: Part 1—Preliminary Results, Weldability Evaluations of Modified 316 and 347 Austenitic—C. D. Lundin, C. H. Lee, R. Menon and V. Osorio, 35-s (Feb).
Strength of Aluminum T-Joint Fillet Welds—C. Marsh, 171-s (Aug).
Study of Heat-Affected Zone and Weld Metal Liquation Cracking in Alloy 903, A—W. A. Baeslack III, W. P. Lata and S. L. West, 77-s (Apr).

Tensile and Torsional Loads, The Behavior of Silver-Aided Diffusion-Welded Joints under—J. W. Elmer, M. E. Kassner and R. S. Rosen, 157-s (July).
Titanium Additions on Hot Cracking in Welds of a Cr-Mo-V Rotor Steel, The Effects of Cerium and—A.-L. Lu, S. Y. Yoo and A. W. Pense, 177-s (Aug).
Torsional Loads, The Behavior of Silver-Aided Diffusion-Welded Joints under Tensile and—J. W. Elmer, M. E. Kassner and R. S. Rosen, 157-s (July).

Ultrasonic Sensing of Weld Pool Penetration—N. M. Carlson and J. A. Johnson, 239-s (Nov).

Weld Metal Liquation Cracking in Alloy 903, A Study of Heat-Affected Zone and—W. A. Baeslack III, W. P. Lata and S. L. West, 77-s (Apr).
Weld Process on Hot Cracking in Stainless Steel, The Effects of Heat Input and—G. M. Goodwin, 88-s (Apr).

Weldability of Free Machining Austenitic Stainless Steel, Hot Ductility and—C. D. Lundin, C. H. Lee and R. Menon, 119-s (June).
Weldability of Newly Developed Austenitic Alloys for Cryogenic Service: Part II—High-Nitrogen Stainless Steel Weld Metal—T. Ogawa and T. Koseki, 8-s (Jan).
Welding Behavior and Microstructure of a Ni_3 Al Alloy—M. L. Santella, J. A. Horton and S. A. David, 63-s (Mar).
Wide Joint Clearance Brazing with Nickel-Base Filler Metals—E. Lugscheider, V. Dietrich and J. Mittendorff, 47-s (Feb).

AUTHOR INDEX

Aidun, D. K., and Zacharia, T.—Elevated Temperature Mechanical Properties of Al-Li-Cu-Mg Alloy (Dec).
Aidun, D. K., Zacharia, T., and Eraslan, A. H.—Modeling of Autogenous Welding, 53-s (Mar).
Aidun, D. K., Zacharia, T., and Eraslan, A. H.—Modeling of Non-Autogenous Welding, 18-s (Jan).

Baeslack III, W. A., and Hagey, K. S.—Inertia Friction Welding of Rapidly Solidified Powder Metallurgy Aluminum, 139-s (July).
Baeslack III, W. A., Lata, W. P., and West, S. L.—A Study of Heat-Affected Zone and Weld Metal Liquation Cracking in Alloy 903, 77-s (Apr).
Bashenko, V. V., and Sosnin, N. A.—Optimization of the Plasma Arc Welding Process, 233-s (Oct).

Carlson, N. M., and Johnson, J. A.—Ultrasonic Sensing of Weld Pool Penetration, 239-s (Nov).
Chandel, R. S., Orr, R. F., Gianetto, J. A., and McGrath, J. T.—Microstructure/Mechanical Property Relationships in Thick-Section C-Mn Narrow-Groove Welds, 196-s (Sept).
Cosack, T., and Lugscheider, E.—High-Temperature Brazing of Stainless Steel with Low-Phosphorus Nickel-Based Filler Metal, 215-s (Oct).

David, S. A., Santella, M. L., and Hammond, J. P.—Brazing Ceramic Oxides to Metals at Low Temperatures, 227-s (Oct).
David, S. A., and Vitek, J. M.—The Effect of Cooling Rate on Ferrite in Type 308 Stainless Steel, 95-s (May).
David, S. A., Khan, P. A. A., and Debroy, T.—Laser Beam Welding of High-Manganese Stainless Steels—Examination of Alloying Element Loss and Microstructural Changes, 1-s (Jan).
David, S. A., Santella, M. L., and Horton, J. A.—Welding Behavior and Microstructure of a Ni_3 Al Alloy, 63-s (Mar).
Debroy, T., David, S. A., and Khan, P. A. A.—Laser Beam Welding of High-Manganese Stainless Steels—Examination of Alloying Element Loss and Microstructural Changes, 1-s (Jan).
Devletian, J. H., and Venkataraman, S.—Rapid Solidification of Stainless Steels by Capacitor Discharge Welding, 111-s (June).
Dietrich, V., Mittendorff, J., and Lugscheider, E.—Wide Joint Clearance Brazing with Nickel-Base Filler Metals, 47-s (Feb).
Dixon, R. D., Milewski, J. O., and Fetzko, S.—Data Acquisition and Analysis for EB Welding in Perspective, 256-s (Nov).

Elmer, J. W., Kassner, M. E., and Rosen, R. S.—The Behavior of Silver-Aided Diffusion-Welded Joints under Tensile and Torsional Loads, 157-s (July).
Engstrom, H., and Gullman, L.-O.—A Multilayer Clad Aluminum Materials with Improved Brazing Properties, 222-s (Oct).
Eraslan, A. H., Aidun, D. K., and Zacharia, T.—Modeling of Autogenous Welding, 53-s (Mar).
Eraslan, A. H., Aidun, D. K., and Zacharia, T.—Modeling of Non-Autogenous Welding, 18-s (Jan).

Fetzko, S., Dixon, R. D., and Milewski, J. O.—Data Acquisition and Analysis for EB Welding in Perspective, 256-s (Nov).

Gianetto, J. A., McGrath, J. T., Chandel, R. S., and Orr, R. F.—Microstructure/Mechanical Property Relationships in Thick-Section C-Mn Narrow-Groove Welds, 196-s (Sept).
Giedt, W. H., and Tallerico, L. N.—Prediction of Electron Beam Depth of Penetration (Dec).
Goodwin, G. M.—The Effects of Heat Input and Weld Process on Cracking in Stainless Steel, 88-s (Apr).
Gullman, L.-O., and Engstrom, H.—A Multilayer Clad Aluminum Material with Improved Brazing Properties, 222-s (Oct).

Hagey, K. S., and Baeslack III, W. A.—Inertia Friction Welding of Rapidly Solidified Powder Metallurgy Aluminum, 139-s (July).
Hammond, J. P., David, S. A., and Santella, M. L.—Brazing Ceramic Oxides to Metals at Low Temperatures, 227-s (Oct).
Horton, J. A., David, S. A., and Santella, M. L.—Welding Behavior and Microstructure of a Ni_3 Al Alloy, 63-s (Mar).
Howe, P., and Kelley, S. C.—Coating Weight Effect on the Resistance Spot Weldability of Electrogalvanized Sheet Steels (Dec).
Howe, P., and Signes, E. G.—Hydrogen-Assisted Cracking in High-Strength Pipeline Steels, 163-s (Aug).

Johnson, J. A., and Carlson, N. M.—Ultrasonic Sensing of Weld Pool Penetration, 239-s (Nov).

Kamtekar, A. G., and Sanaei, E.—Experiments on Some Arbitrarily Loaded Fillet Welds, 103-s (May).
Kassner, M. E., Rosen, R. S., and Elmer, J. W.—The Behavior of Silver-Aided Diffusion-Welded Joints under Tensile and Torsional Loads, 157-s (July).
Kelley, S. C., and Howe, P.—Coating Weight Effect on the Resistance Spot Weldability of Electrogalvanized Sheet Steels (Dec).
Khan, P. A. A., Debroy, T., and David, S. A.—Laser Beam Welding of High-Manganese Stainless Steels—Examination of Alloying Elements Loss and Microstructural Changes, 1-s (Jan).
Koseki, T., and Ogawa, T.—Weldability of Newly Developed Austenitic Alloys for Cryogenic Service: Part II—High-Nitrogen Stainless Steel Weld Metal, 8-s (Jan).
Kou, S., and Lu, M.—Power and Current Distributions in Gas Tungsten Arcs, 29-s (Feb).

Lata, W. P., West, S. L., and Baeslack III, W. A.—A Study of Heat-Affected Zone and Weld Metal Liquation Cracking in Alloy 903, 77-s (Apr).
Lee, C. H., Menon, R., and Lundin, C. D.—Hot Ductility and Weldability of Free Machining Austenitic Stainless Steel, 119-s (June).
Lee, C. H., Menon, R., Osorio, V., and Lundin, C. D.—Weldability Evaluations of Modified 316 and 347 Austenitic Stainless Steels; Part 1—Preliminary Results, 35-s (Feb).
Lu, A.-L., Yoo, S. Y., and Pense, A. W.—The Effects of Cerium

and Titanium Additions on Hot Cracking in Welds of Cr-Mo-V Rotor Steel, 177-s (Aug).
Lu, M., and Kou, S.—Power and Current Distributions in Gas Tungsten Arcs, 29-s (Feb).
Lugscheider, E., and Cosack, T.—High-Temperature Brazing of Stainless Steel with Low-Phosphorus Nickel-Based Filler Metal, 215-s (Oct).
Lugscheider, E., Dietrich, V., and Mittendorff, J.—Wide Joint Clearance Brazing with Nickel-Base Filler Metals, 47-s (Feb).
Lundin, C. D., Lee, C. H., and Menon, R.—Hot Ductility and Weldability of Free Machining Austenitic Stainless Steel, 119-s (June).
Lundin, C. D., Lee, C. H., Menon, R., and Osorio, V.—Weldability Evaluations of Modified 316 and 347 Austenitic Stainless Steels: Part 1—Preliminary Results, 35-s (Feb).

Marsh, C.—Strength of Aluminum T-Joint Fillet Welds, 171-s (Aug).
Mazumder, J., and Tekriwal, P.—Finite Element Analysis of Three-Dimensional Transient Heat Transfer in GMA Welding, 150-s (July).
McGowan, C. N., Olson, D. L., and Siewert, T. A.—Ferrite Number Prediction to 100 FN in Stainless Steel Weld Metal (Dec).
McGrath, J. T., Chandel, R. S., Orr, R. F., and Gianetto, J. A.—Microstructure/Mechanical Property Relationships in Thick-Section C-Mn Narrow-Groove Welds, 196-s (Sept).
Menon, R., Lundin, C. D., and Lee, C. H.—Hot Ductility and Weldability of Free Machining Austenitic Stainless Steel, 119-s (June).
Menon, R., Osorio, V., Lundin, C. D., and Lee, C. H.—Weldability Evaluations of Modified 316 and 347 Austenitic Stainless Steels: Part 1—Preliminary Results, 35-s (Feb).
Milewski, J. O., Fetzko, S., and Dixon, R. D.—Data Acquisition and Analysis for EB Welding in Perspective, 256-s (Nov).
Mittendorff, J., Lugscheider, E., and Dietrich, V.—Wide Joint Clearance Brazing with Nickel-Base Filler Metals, 47-s (Feb).
Murphy, J. L., Mustaleski, Jr., T. M., and Watson, L. C.—Multipass, Autogenous Electron Beam Welding, 187-s (Sept).
Mustaleski, Jr., T. M., Watson, L. C., and Murphy, J. L.—Multipass, Autogenous Electron Beam Welding, 187-s (Sept).

Neelam, J. R., and Sassani, F.—Friction Welding of Incompatible Materials, 264-s (Nov).
Nippes, E. F., and Xiong, D. J.—Investigation of Hydrogen-Assisted Cracking in FCA Welds on HY-80 Steel, 131-s (June).

Ogawa, T., and Koseki, T.—Weldability of Newly Developed Austenitic Alloys for Cryogenic Service: Part II—High-Nitrogen Stainless Steel Weld Metal, 8-s (Jan).
Olson, D. L., Siewert, T. A., and McGowan, C. N.—Ferrite Number Prediction to 100 FN in Stainless Steel Weld Metal (Dec).
Orr, R. F., Gianetto, J. A., McGrath, J. T., and Chandel R. S.—Microstructure/Mechanical Property Relationship in Thick-Section C-Mn Narrow-Groove Welds, 196-s (Sept).
Osorio, V., Lundin, C. D., Lee, C. H., and Menon, R.—Weldability Evaluations of Modified 316 and 347 Austenitic Stainless Steels: Part 1—Preliminary Results, 35-s (Feb).

Pense, A. W., Lu, A.-L., and Yoo, S. Y.—The Effects of Cerium and Titanium Additions on Hot Cracking in Welds of a Cr-Mo-V Rotor Steel, 177-s (Aug).
Pollard, B.—The Effects of Minor Elements on the Welding Characteristics of Stainless Steel, 202-s (Sept).

Rosen, R. S., Elmer, J. W., and Kassner, M. E.—The Behavior of Silver-Aided Diffusion-Welded Joints under Tensile and Torsional Loads, 157-s (July).

Saedi, H. R., and Unkel, W.—Arc and Weld Pool Behavior for Pulsed Current GTAW, 247-s (Nov).
Sanaei, E., and Kamtekar, A. G.—Experiments on Some Arbitrarily Loaded Fillet Welds, 103-s (May).
Santella, M. L., Hammond, J. P., and David, S. A.—Brazing Ceramic Oxides to Metals at Low Temperatures, 227-s (Oct).
Santella, M. L., Horton, J. A., and David, S. A.—Welding Behavior and Microstructure of a Ni_3 Al Alloy, 63-s (Mar).
Sassani, F., and Neelam, J. R.—Friction Welding of Incompatible Materials, 264-s (Nov).
Siewert, T. A., McGowan, C. N., and Olson, D. L.—Ferrite Number Prediction to 100 FN in Stainless Steel Weld Metal (Dec).
Signes, E. G., and Howe, P.—Hydrogen-Assisted Cracking in High-Strength Pipeline Steels, 163-s (Aug).
Sosnin, N. A., and Bashenko, V. V.—Optimization of the Plasma Arc Welding Process, 233-s (Oct).

Tallerico, L. N., and Giedt, W. H.—Prediction of Electron Beam Depth of Penetration (Dec).
Tekriwal, P., and Mazumder, J.—Finite Element Analysis of Three-Dimensional Transient Heat Transfer in GMA Welding, 150-s (July).
Tsao, K. C., and Wu, C. S.—Fluid Flow and Heat Transfer in GMA Weld Pools, 70-s (Mar).

Venkataraman, S., and Devletian, J. H.—Rapid Solidification of Stainless Steels by Capacitor Discharge Welding, 111-s (June).
Vitek, J. M., and David, S. A.—The Effect of Cooling Rate on Ferrite in Type 308 Stainless Steel, 95-s (May).

Watson, L. C., Murphy, J. L., and Mustaleski, Jr., T. M.—Multipass, Autogenous Electron Beam Welding, 187-s (Sept).
West, S. L., Baeslack III, W. A., and Lata, W. P.—A Study of Heat-Affected Zone and Weld Metal Liquation Cracking in Alloy 903, 77-s (Apr).
Wu, C. S., and Tsao, K. C.—Fluid Flow and Heat Transfer in GMA Weld Pools, 70-s (Mar).

Xiong, D. J., and Nippes, E. F.—Investigation of Hydrogen-Assisted Cracking in FCA Welds on HY-80 Steel, 131-s (June).

Yoo, S. Y., Pense, A. W., and Lu, A.-L.—The Effects of Cerium and Titanium Additions on Hot Cracking in Welds of a Cr-Mo-V Rotor Steel, 177-s (Aug).

Zacharia, T., and Aidun, D. K.—Elevated Temperature Mechanical Properties of Al-Li-Cu-Mg Alloy (Dec).
Zacharia, T., Eraslan, A. H., and Aidun, D. K.—Modeling of Autogenous Welding, 53-s (Mar).
Zacharia, T., Eraslan, A. H., and Aidun, D. K.—Modeling of Non-Autogenous Welding, 18-s (Jan).